

## Does Haryana's SHG Participation Help the Quality of Life of Dalit Women? An Approach Based on Composite Index and Treatment Effect

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### Abstract

*This study aimed to assess the impact of Self Help Groups and their specific interventions, such as vocational training programmes and the use of loans in productive means, on the empowerment of Dalit women of Haryana. A selected control group from OBCs was studied, and it was shown how the livelihood interventions of Self Help Groups bridged the gap between SC (Dalit) and OBC women beneficiaries. The study selected four districts from Haryana with an equitable distribution of SC and OBC women beneficiaries and 360 respondents with equal distribution of SC and OBC women beneficiaries from Haryana and used a Likert scale data for the analysis. Principal component analysis (PCA) and treatment effects were carried out using the propensity score matching method (PSM), the composite index for women's economic empowerment was inferred, and important empowerment factors were identified in Haryana. Results compared and contrasted the implications for different social groups and districts selected for the study and concluded that Self Help Group interventions significantly affected the women empowerment of both social groups and uplifted the Dalit women beneficiaries to the level of OBC women in Haryana. A large number of training programmes are to be conducted to promote more small businesses and micro-enterprises.*

**Keywords:** Dalit, Microfinance, OBC, Shgs, PCA, PSM, Treatment Effects.

### Introduction

The condition of rural women in a deprived section of society is very pathetic, and struggling to live a decent life. Many other problems like domestic violence, child marriage, the dowry system, and social evils are in practice in rural India. Empowerment is a multi-dimensional phenomenon that aims to raise the standard of living of women in society. For this purpose, women's empowerment is needed, especially in key areas of economics, social status, psychologically, culturally, and politically, as well as at various levels of community-level SC, ST, OBC, and general. After independence, the *Garibi Hatao* Subsidy and Loan Linkage Program were started. Many microfinance institutions have been started to remove poverty. Microfinance is a growth tool that is not an end in itself. Studies show that microfinance achieved the goal of reducing poverty levels. The performance of SHGs in the last twenty years has been exceptional; thus, it has become an integral part of infrastructure development, social mobility, and women empowerment (Satish, 2005). The study found that women of all castes and groups join SHGs to get loans or loan amounts, and the income generated from this amount is used to start their business (Esmail, Kapil, Pelekh and Teimoury, 2018). The report of the Warehousing Committee in Microfinance and Poverty Alleviation, Eleventh Five Year Plan (2007-08 to 2011-12) aims at reduction of the country's poverty rate and inclusive growth. In this report, microfinance was the most important institution for eradicating poverty. Microfinance provided loans to the poor and underprivileged groups of society for their upliftment. Microfinance tools have contributed a lot in solving the problem of poverty and financial institutions in the country. This report highlighted the SHG-Bank linkage program and how it provided loans to poor people, making them powerful and dependent in society. Some of the smaller and most prominent institutions

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helping SHGs were RRBs, Commercial Banks, Co-operative Banks, Primary Agricultural Credit Societies, State Financial Corporations, etc.

The growth rate of SHGs in Haryana was examined. Secondary data for the study was collected through NABARD. The study considered certain indicators such as savings, gross NPAs, bank loan outstanding, and disbursements among SHGs in Haryana, to assess the growth. By measuring all the indicator results, it was found that they were moving fast. This means that SHGs did not improve the economy of rural Haryana. The results, therefore, concluded with the suggestion that the development of the state would require the development of SHGs (Ahlawat, 2014). SHGs played an efficient and effective role in rural and backward areas. The study highlighted the fact that SHG members faced many problems. This study was done in the Mewat district of Haryana. The result proved that society took some positive steps, such as literacy programs, capital formation, and capacity building, through the SHG model for the rural poor and backward areas. It was concluded with the observation that SHG members faced problems like a lack of resources and awareness about planning and programs (Mittal, 2016). The relationship between political participation related to economic activities and women's earnings through SHGs was analyzed, and how SHGs were beneficial for the political empowerment of women was assessed. The study was conducted based on both primary and secondary data in Gorantla Mandal of Anantapur district, Andhra Pradesh (Sreeramulu and Khan, 2008).

The study measured women's political empowerment, which included indicators such as caste-wise distribution of members, distribution of groups and members, activities in this circle, nature of employment, and income range. The study found an increase in the number of members of the group from 1991 to 200, with people belonging to the Scheduled Castes and Other Backward Classes. Flowers, vegetables, fruits, milk, and handicrafts were the group members' business types. In addition, the level of employment in agriculture was also found to be satisfactory. Findings showed that most members were involved in economic activities and earned moderate income. The study concluded that earnings through small businesses and economic activities enable women to participate in politics. The past work on women empowerment through self-help groups was highlighted in Assam to evaluate the current status of women in the Sonitpur district of Assam. The study sought answers to questions such as the current socio-economic status of SC women, the credit delivery model of SHGs, the increase in capital base and the increase in savings after joining SHGs in Sonitpur district of Assam. The study was based on primary data collected from the Brahmaputra Valley Sonitpur district of Assam with a special reference to scheduled caste women. The t-test results found that the income level of SC women beneficiaries increased significantly after joining SHGs, indicating an upliftment in socio-economic status. It was found that the average repayment of a loan was Rs. 5540 through monthly instalments. Many members of the Scheduled Castes were weaving traditional Assam clothing such as shawls, gauchos, napkins, and *Okhla* bed sheets. Women beneficiaries were engaged in income-generating activities as monthly savings grew by 49.9% and internal lending by Rs. 90,000 among SHGs in five years (Roy, 2014).

Women beneficiaries of SHGs were provided equal healthcare by examining the role played by caste and class. Focusing on women beneficiaries from communities SC and OBC, health expenditure was analyzed after joining SHGs: field survey and interview with a sample of 200 women in the Patna district of Bihar. Qualitative and quantitative methods were used in the study. The study reported that SC women's health expenditure was lower than that of their OBC counterparts (39%). It was concluded that SHGs failed to capture in terms of caste (SC and OBC) to provide and produce equitable health services to the poor and marginalized people in the Patna district (Kumar, 2007). The role of self-help groups in the upliftment of *Dalit* women in India. The present study followed a conceptual research approach and used several policies, legislation, planning, and *Dalit* and microfinance and SHG reports. It was concluded that SHG movements and supporting agencies can pave the way for the emancipation of *Dalit* women. The study made some suggestions to improve the SHG bank linkage program to empower *Dalit* women to open a bank account with a nearby bank, maintaining records, and raising awareness programs, especially in regional languages (Shanthakumari, 2016).

The socio-economic status of women after joining SHGs in Paramakudi taluk of Ramanathapuram district was analyzed. Primary data and multi-stage random sampling methods were used, and 120 SHG members

were selected to collect the information. The study used Garrett ranking methods to analyze the socio-economic status of women in Paramakudi taluk of Ramanathapuram district. The results found that most of the members were in the age group of 26-35 years, and most of them were married. It was found that half of the members work in agricultural activities and earn less than Rs. 10,000. Most of the women spent money to meet their household needs. It was concluded that women were empowered in terms of income, expenditure, decision-making, and external relationships in Paramakudi after joining SHGs (Meganathan, Saravanan, and Ganthi, 2009). The impact of SHGs was discussed on the decision-making process of SC women beneficiaries at family, community, and group levels. Primary data was collected from one village and two SHGs that had been working continuously for ten years in the Allahabad district of Uttar Pradesh. Secondary data was collected through the meetings of SHGs, Blocks, and Banks. The study found that after joining SHGs, women were actively involved in decision-making on children's education, reproductive decisions, and community-level decisions such as the pulse polio mission, vaccination of children and pregnant women, and political decisions. Women making decisions at the group level were actively involved in deciding on non-payment/ late payment, who would take the loan and the member's replacement. On the whole, it can be said that there has been a remarkable improvement among the Scheduled Caste women, and women have attained power from all walks of life (Pandey, 2017). The educational status of *Dalits* and measures for inclusion of excluded *Dalits* were examined and identified. The primary census abstract referred to the total population, scheduled castes, and scheduled tribes in 2011 and observed a wide literacy gap between OBC and SC/ST women in India from 2001 to 2011. *Dalit* and tribal children, especially rural women, had significantly unsatisfactory school attendance rates as compared to non-SC/ST children. Therefore, high school dropout rates among SC/ST children coupled with relatively low school attendance rates create an unequal opportunity structure and seeds the low capacity of *Dalit* women children to take advantage of the opportunities available in different segments of the society; ultimately this results in socio-economic discrimination among *Dalit* women (Salam, 2014). Reviewed studies showed the impact of SHGs' intervention for the weaker and marginal sections, but none of the studies took specific interventions of training programmes and utilization of loans in productive means to highlight the role of SHPIs and used treatment effects.

## Methodology

### *Source of Indicators*

The study used mobility, financial status, income, financial decision-making, property, confidence level, skill, and voting rights as the key indicators for women's empowerment through some SHGs. SHGs contributed to government programs such as education and NAREGA (Mehra, et.al. 2009). The study used some basic or complex indicators of women empowerment through SHGs like age, family system, getting a loan, saving, social status, the purpose of credit availed, loan repayment, income, expenditure, and assets (Sahoo, 2013).

**Table 1.** Sources of indicator selected for the model

<b>Economic empowerment Indicators</b>	<b>Sources</b>
Ability to generate sufficient income	UNDP, OECD, and, ICRW and from field survey, Swain and Wallentin, 2009, Mehra, 2009, Thomas and Velthouse, 1990, Sahoo, 2013
Ability to spend money responsibly/wisely	
Effective money management	
Saving	
Ability to invest	
Assets	
Attitude towards future expenditure	
Buying behaviour and rationality	
Purchasing power has been enhanced	
Employment opportunity	
Living standard	

Table 1 exhibits the indicators selected for the study and measuring composite index Model selected 12 indicators for measuring the composite index for Economic empowerment. Source indicators were taken from UNDP, OECD, and ICRW, as well as from field surveys. The study used control groups and SHGs, while the objective of the included control groups was to compare the socio-economic group to SHGs. The variables used in the study were age, land value owned by the groups, wealth, earnings, education, and participation in agriculture and labour. The study concluded that a positive change was found in the control group, further indicating that some members were more empowered than others (Swain and Wallentin, 2009). The study developed a cognitive model of empowerment. Some parameters used to measure empowerment were intrinsic task motivation and task assessments based on the sense of impact, competence, and choice (Thomas and Velthouse, 1990).

### *Sample Size and Sampling Methods*

The multi-stage Stratified Random sampling method was used to collect the observations. Haryana state was chosen as a sample universe, and the study targeted SHGs, VOs, and CLFs functioning under the selected universe. Four districts from each division were selected based on the intensive working of SHGs at the first sampling stage. In the second stage of sampling, three blocks from each district were chosen. The study further selected CLF from each block and one VO from each CLF at the third sampling stage. Thus, three CLFs and three VOs were chosen from each district. The study targeted five SHGs and 30 respondents with an equal distribution of SCs and OBCs from each VO. Thus, 90 respondents from each district and 360 respondents from all four districts were selected for the study. The study period was taken from the year 2018 to 2020 for the analysis.

### *Materials*

Principal component analysis was used to estimate the composite index of women's economic empowerment of Dalit women in Haryana. As Likert scale data in a specific range are considered continuous data, PCA technique for the continuous method was used. The OECD method was followed to obtain the composite index. The index for the control group (OBC Women Economic Empowerment) was also estimated to compare the impact of SHGs intervention in Haryana. The analysis was carried out based on MSA (Measures of Sampling Adequacy) and KMO statistics. Only those variables were taken care of in the model with MSA value greater than 0.5 and KMO statistics greater than 0.70. Extracted Components were taken into the analysis based on Eigenvalues greater than unity. A VARIMAX rotated matrix was used to estimate the weights for each variable or variable of importance through the sum of square loadings. The data's reliability and internal consistency were checked through Cronbach's Alpha statistics greater than 0.7. Sub-dimensions were converted into standardized indexes. The standardization process calibrates the NSDI values on a 0–100 scale for easy comparison.

$$WEEI_i^* = \alpha_{i1}Comp_1 + \alpha_{i2}Comp_2 \dots \dots \alpha_{iM}Comp_M + \varepsilon_i \dots(1)$$

WEEI refers to the Economic Empowerment Index,

To measure the treatment effects of specific interventions of SHGs, i.e. training programs and utilization of loans, the Propensity score method was used to measure the impact of SHGs' intervention on Women empowerment in Haryana. Treatment effects are used to see the effects on observational datasets to reduce biases in the model. Both measures of treatment effect were taken into the analysis.

$$ATE = E[Y(1) - Y(0)] \dots(2)$$

ATE explains the effect of the outcome on the Population, whereas ATT explains the Average Treatment Effect on the treated

$$ATT = E[Y(1) - Y(0) : W = 1] \dots(3)$$

$Y(0)$  will be the outcome of a control group and  $Y(1)$  will be the outcome of the treated group. If the treatment received is equal to zero for the control group ( $T = 0$ ) and equal to one ( $T = 1$ ) for the treated subjects. Two methods of matching were used to assess the robustness of the results, i.e. nearest neighbour and Kernel Bandwidth. Variables like age, education, family size, caste, districts (place), and economic status were chosen as covariates of the model. The model has taken care of the assumption of Unconfoundness and common support by estimating the over-identification test and covariate balance summary. According to the assumption, the covariate should be balanced between the ranges 0 to 1. Epanechnikov Kernel density was checked to match the propensity score between the treatment and control groups. Results were estimated for the complete sample (360). This has taken composite indexes estimated as an outcome variable.

## Results and Discussion

Sub-indices of key indicators (economic, social, political and personal empowerment) were used to weight the variables in the formulation of the Women's Empowerment Index. Therefore, the study included variables for which KMO and MSA values were greater than 0.6 and 0.7. Table 2 shows that all sub-index MSA values are close to 0.8 and 0.9, which means that the model enters all variables.

**Table 2.** MSA Statistics of the Variables Used in the Economic Empowerment Index

Variable	
Ability to generate sufficient income	0.896
Ability to spend money responsibly/wisely	0.931
Effective money management	0.932
Saving	0.932
Ability to invest	0.891
Assets	0.885
Attitude towards future expenditure	0.905
Buying behaviour and rationality	0.923
Purchasing power has been enhanced	0.885
Employment opportunity	0.890
Living standard	0.904
Loan frequency and repayment of the loan	0.918

The KMO statistic was found to be 0.908, while Cronbach's alpha value was found to be 0.896; both values are greater than 0.70; hence, the model was found fit for further analysis. Table 3 shows that the model extracted two components, and the Eigenvalue was found greater than one. The table further shows that these components together explained 53.3% of the variance.

**Table 3.** Reliability Measures

N=360 KMO=0.908*** Cronbach's Alpha=0.896			
Variable	Eigenvalues	Variance (%)	Cumulative Variance
Ability to generate sufficient income	5.180	43.164	43.164
Ability to spend money responsibly/wisely	1.223	10.194	53.358
Effective money management	.827	6.890	60.248
Saving	.775	6.455	66.703
Ability to invest	.669	5.576	72.279
Assets	.631	5.254	77.533



Attitude towards future expenditure	.552	4.602	82.135
Buying behaviour and rationality	.481	4.007	86.142
Purchasing power has been enhanced	.460	3.833	89.975
Employment opportunity	.442	3.684	93.660
Living standard	.399	3.327	96.987
Loan frequency and repayment of the loan	.362	3.013	100.000

**Table 4.** Factor Loading After (VARIMAX Rotation), Variable Importance

<b>Women Respondents=360 (N)</b>				
<b>Indicators</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Component 1</b>	<b>Component 2</b>
Ability to generate sufficient income (X1)	.178	<b>.782</b>	0.006	<b>0.502</b>
Ability to spend money responsible/wisely (X2)	<b>.565</b>	.472	<b>0.062</b>	0.183
Effective money management (X3)	<b>.597</b>	.380	<b>0.069</b>	0.118
Saving (X4)	<b>.531</b>	.430	<b>0.054</b>	0.152
Ability to invest (X5)	.455	<b>.557</b>	0.040	<b>0.254</b>
Assets (X6)	.096	<b>.785</b>	0.002	<b>0.505</b>
Attitude towards future expenditure (X7)	.244	<b>.752</b>	0.011	<b>0.463</b>
Buying behavior and rationality (X8)	<b>.645</b>	.272	<b>0.080</b>	0.061
Purchasing power has been enhanced (X9)	<b>.775</b>	.119	<b>0.116</b>	0.012
Employment opportunity(X10)	<b>.694</b>	.067	<b>0.093</b>	0.004
Living standard	<b>.625</b>	.238	<b>0.076</b>	0.047
Loan frequency and repayment of the loan (X11)	<b>.646</b>	.166	<b>0.081</b>	0.023
Variance (X12)	5.17	1.22		
Component importance (X13)	0.807	0.190		

Table 4 shows the highest factor loading values highlighted. The VARIMAX rotation values were used to reduce the variables to equal factors. Only those variables that have the largest factor loading after rotation on a given factor were considered to have the most dominant effect by the particular principal component. The author named the dimension based on the highest factor loading on a given factor. After rotation, the result of factor loading was squared and divided with the variance specified by the appropriate factor, e.g. the component importance for the variable X1 is  $0.502 = (0.782)^2 / 1.22$ . The importance of the principal component was measured as  $0.807 = 5.17 / (5.17 + 1.22)$  for the first component, the same way it was estimated for other components.

**Table 5.** Variables Affecting the Dimensions of Economic Empowerment

<b>Component Extract by PCA</b>	<b>Dimension Name</b>	<b>Indicators affecting the Economic Empowerment</b>
Component 1	Financial decision-making & Asset holding	X8,X9,X10,X11,X12
Component 2	Ability To Generate Sufficient Income and using financial services	X1,X2,X3,X4,X5,X6,X7

*Estimation of the Economic Empowerment Index*

To estimate economic empowerment, the combination of weighted indicators were considered to measure individual dimensions; for the aggregation, the weights of variable importance were considered to obtain the comprehensive score of the component.

*Dimensions of Economic Empowerment*

$$Comp(1)_i = 0.08x_{8i} + 0.116x_{9i} + 0.093x_{10i} + 0.076x_{11i} + 0.081x_{12i} \quad \dots (4)$$

$$Comp(2)_i = 0.502x_{1i} + 0.183x_{2i} + 0.118x_{3i} + 0.152x_{4i} + 0.254x_{5i} + 0.505x_{6i} + 0.463x_{7i} \quad \dots (5)$$

Dimensions were converted into SDI scores and presented by the equation given below:

$$EEI_i^* = 0.81C(1)_i^* + 0.19C(2)_i^* \quad \dots (6)$$

**Table 6.** Composite Measures of Women's Economic Empowerment Index

Index	Sub-dimensions	SDI Scores (%)	Weights	Weighted value of Sub-dimensions
Women Economic Empowerment Index [WEEI]	Financial decision making & Assets holding (PC1)	65.38	0.81	52.96
	Ability to generate income & using financial services(PC2)	77.30	0.19	14.68
<b><math>\bar{w}WEEI</math></b>				67.64

As per the results of the extracted dimensions, it was also found that the intervention of SHGs improved the ability to earn income, work, and make financial decisions, leading to increased household wealth. Field surveys also evidently confirmed that these women earned income from their asset holdings and could use financial services. The primary survey found that few (less than 20 %) women were aware of the use of debit cards. Equation (6) depicted that financial decision making affected majorly, followed by women members' ability to generate income through SHGs. Composite economic empowerment measures reported 67.64% for both social groups i.e. OBC and SC (Dalit) women beneficiaries (table 6).

**Table 7.** Comparative Statistics

Social Group	EEI
SC ( <i>Dalit</i> Women Empowerment)	71.55
OBC Women Empowerment	72.98

It was found that 73% of OBC women were better empowered economically than SC women beneficiaries, with 71%. On the basis of the primary survey, it was found that 8.89% of OBC women beneficiaries can earn a monthly income of Rs. 7000 to 9000, while only 2.22% of SC women were able to earn a monthly income of Rs. 7000 to 9000. Women members of the OBC community were found to be empowered due to their agricultural landholdings and income sources, whereas most SC women were involved as agricultural labourers (Table 7).

**Table 8.** Post-Hoc Comparisons –District-Wise

Dependent Variable		Mean Difference (I-J)	
OBC Women Empowerment	Bhiwani	Jhajjar	11.8**
		Panchkula	-4.45
		Mahendergarh	-5.00
	Jhajjar	Bhiwani	-11.8**
		Panchkula	-16.2***
		Mahendergarh	-16.8***
	Panchkula	Bhiwani	4.45
		Jhajjar	16.29***
		Mahendergarh	-.550
	Mahendergarh	Bhiwani	5.00
		Jhajjar	16.8***
		Panchkula	.550
SC Women Empowerment	Bhiwani	Jhajjar	6.41
		Panchkula	-15.12***
		Mahendergarh	-10.61***
	Jhajjar	Bhiwani	-6.41
		Panchkula	-21.54***
		Mahendergarh	-17.03***
	Panchkula	Bhiwani	15.12***
		Jhajjar	21.54***
		Mahendergarh	4.50
	Mahendergarh	Bhiwani	10.61***
		Jhajjar	17.03***
		Panchkula	-4.50

The study measured the Tukey HSD Post Hoc analysis (table 8) to show the district category-wise comparisons. *Dalit* women beneficiaries showed a positive and significant mean difference in the Panchkula district, indicating the highest improvement in livelihood interventions among all four districts. It was found that women beneficiaries of Panchkula district were able to utilize their loans more productively. It explicitly showed from the field survey that the majority of respondents of Panchkula districts are independent and earn from Rs. 3000 to Rs.5000 monthly. At least 62.2% of women beneficiaries have overcome the problem of money manoeuvring and generated assets of livestock, agriculture (seeds and fertilizers) and started small businesses (sewing machines and shops, etc.). It was found that women beneficiaries of the Jhajjar district got opportunities through SHGs to work in a shoe factory. Jhajjar district DRDA signed MOU with some factories and provided the necessary training to women beneficiaries. According to the primary survey, *Dalit* women beneficiaries from the Jhajjar district suffered from classism, which created a barrier to development. The economic empowerment of SC and OBC women after joining SHGs was analyzed on the basis of decision-making power. The study found that SC women were more empowered in decision-making in finances and purchases after joining SHGs than women from OBC castes (Pandey, 2017).

### Measuring Treatment Effects

**Table 9.** Treatment: Utilization of Loans

[Outcome variables =WEEI]				Sample SIZE ( N ) =360							
Propensity Score Matching				Nearest-Neighbours (Md)				Kernel Based Matching (PS)			
ATE		ATT		ATE		ATT		ATE		ATT	
Coef.	z	Coef.	Z	Coef.	z	Coef.	Z	Coef.	t	Coef.	T
20.36***	12.3	20.0***	12.0	20.6***	12.0	20.2***	10.7	20.7***	12.2	20.1**	13.2



NOTES: 10% \*, 5%\*\* ,1 %\*\*\* Level of Significance

Epanechnikov Kernel Estimates Used Bandwidth=0.05

Table 9 exhibits the impact of SHGs interventions in coordination with SHPIs on women's economic empowerment. This concluded that using loan amounts creates a positive and significant impact on EEI. PSM (Propensity score matching) results for the use of borrowed loans showed an expansion to 20%. A study and fieldwork found that a large number of women spent on their household expenses by taking loans from the SHGs, and this practice became a severe hindrance to the success of microfinance in India. It is a major observation that the use of borrowed loans was found to be the most affecting indicator to increase the participation of women in SHGs of Panchkula (27.01) district. Debt was the biggest factor in encouraging women beneficiaries to join SHGs. Up to 55% of women beneficiaries in these districts were literate and could use the loan amount efficiently (Children's fees, open activity of small business, purchase of seeds). The women of the Panchkula district had learned about new farming techniques through the NRLM farm livelihood program and were using the loan amount for agricultural purposes (filed survey).

**Table 10.** Treatment: Conducting training programme

Outcome variables =EEI				Sample SIZE ( N )=360							
Propensity Score Matching				Nearest-Neighbours (Md)				Kernel Based Matching (PS)			
ATE		ATT		ATE		ATT		ATE		ATT	
Coef.	z	Coef.	z	Coef.	Z	Coef.	Z	Coef.	T	Coef.	T
7.85**	3.22	7.16***	3.32	8.24***	3.02	7.5**	3.21	7.37***	3.57	7***	2.4

NOTES: 10% \*, 5%\*\* ,1 %\*\*\* Level of Significance

Epanechnikov Kernel Estimates Used Bandwidth=0.06 (EEI)

Table 10 exhibits the impact of SHGs interventions on women's economic, Political and personal empowerment. It was concluded that conducting a training programme positively and significantly impacted the expansion of EEI. The study showed an analysis of the effects of training programs on women's economic empowerment and found that training programs positively and significantly affected the economic empowerment of women members in Haryana. The PSM results indicated a 7% expansion in economic empowerment, implying the positive contribution of training programmes recommended by NABARD and SHPIs. Training programs on cleanliness, sewing, weaving, animal husbandry, bookkeeping, etc., were conducted and increased in Bhiwani district. According to the study and fieldwork, a large number of women spend time on their household work (taking care of family, engaging in farm and animal work, and other social responsibilities). Women had certain family pressures, and according to data, up to 40 % of them were newly married and were not allowed to join training programmes outside the villages.

According to the field survey of the OBC women group, up to 60% of women were engaged in farming and animal husbandry, so they did not attend training programs continuously. However, a positive response was found from Panchkula and Jhajjar, where women got employment and bank loans for their livelihood. Despite attending training, women beneficiaries of Panchkula and Mahendergarh districts struggled hard to gain market access because markets were miles from the villages in the urban area, hindering income-generating activities (Field Survey). This limited the goal and intervention of the microfinance program. To fulfill the objective of microfinance, emphasis must be given to income-generating activities through market access and training interventions. The study used PSM Length analysis to measure the training effects intensively in Haryana for SC and OBC women groups. This analysis provided the separate mean value of measured indicators. The study analyzed the impact on both SC and OBC women groups with reference to the chosen observables (i.e., economic group, caste, education, and district-wise loan utilization). To check the improvement status of women beneficiaries, the impact of the use of the borrowed loan, active participation, and conducting training programs were selected to measure the treatment effects. It was known that loans were the most influential factor in encouraging women to join SHGs. Most women used this amount to fulfill household expenditure due to a decrease in the savings generated through SHGs in bank accounts (NABARD, 2019). It increased income-generating activities and the empowerment level.

Table 11. PSM Statistics

Observables/ Covariates	Mean (Use of borrowed Loan)	Mean (Active group)	Mean (Training Programs)
SC	16.22	5.21	6.69
OBC	24.16	8.45	16.03

Table 11 exhibits the impact of the utilization of loans, active participation in social committees, and training interventions in different observables/covariates selected for the study. ATE was considered to measure the effects. It has been observed that OBC women beneficiaries were found much more empowered than other covariates regarding the utilization of loans. Women beneficiaries belonging to OBC were found to be empowered by availing loans and training interventions. Women beneficiaries actively carried important positions such as bookkeeping, accountant, secretary, president, CLF manager, CLF coordinators, *Samuh Sakhi*, and Bank *Sakhi* at SHGs, VOs, and CLF level, creating additional income sources. It has been found that there was an expansion in empowerment in women beneficiaries' availed loans through SHGs. The study found that microfinance-related factors such as availing loans, repayment of loans, and training by SHGs are contributing significantly to increasing women's empowerment levels.

It was found that the increase in the level of women's empowerment is due to adequate leverage. Members are well-informed about loans and their process in regular meetings (Aruna and Jyothirmayi, 2011). Thus, it can be concluded that SHGs interventions are significantly uplifting poor, rural women and bridging the gaps between SC and OBC women beneficiaries, literate and illiterate women beneficiaries in Haryana. The treatment effect analysis PSM (Propensity Score Matching) shows that all the treatment variables found a significant effect on outcome variables, but the effect was not seen as very high due to the lack of involvement of SHPIs. It shows the lack of coordination among the members of SHGs and district rural development, and state rural development authorities are working slowly to increase the SHG's activity. The study analyzed the marginalized groups based on caste. After interventions of self-help groups, the Ramanagar district of Karnataka reported a rise in social participation, monthly savings, earnings, asset formation, repayment of loans, decision-making power, and improved nutrition level in their household (Nandini, & Sudha, 2016). After joining SHG, women got the opportunity to raise their social status in society, and promoted income-generating activities, get loan amounts; this makes women socially and economically strong (Alam, & Nizamuddin, 2012).

Due to the intervention of SHGs under JK-NRLM, women's empowerment was focused in the Jammu district. In this study, it has been found that women who received small loans through SHG have influenced their level of empowerment. The study found that women have become economically viable and active due to the loan amount received by SHG. Now, women want to support loan amounts for their development and participate in entrepreneurial and income-generating activities to start a small business. It helps women become self-reliant, financially secure, and have better livelihoods (Suri and Kaur, 2016). Results supported by the study conducted in Burdwan, West Bengal, showed that the role of rural SHGs and non-SHGs was analyzed in the expansion of women's empowerment. The study of 200 selected respondents was related to SC & ST, and the opinion index was developed to measure indicators of women's empowerment levels. The study found that SHGs women (SC& ST) were more socio-economic empowered compared to non-SHGs women. After joining the SHGs, women became enabled to have social status, monthly savings, decision-making and training programs, and increased participation in the meetings (Pal and Halder, 2016). The study described that SHGs have positively impacted a special section of society. SHGs provide all members the same benefits and try to equate the development of every group's members. SHGs significantly impacted members' economic, social, political, and personal development after joining the SHGs. *Kharif* was the main and busiest crop production season in Katwa Block-I of Burdwan district of India. There was an increase in the wage rate and earning capacity of SC, ST, and OBC women after joining SHGs (Pal, 2015). OBC and SC women from Hathiganha village in Allahabad district of Uttar Pradesh, due to their membership of SHGs, women propose for *Panchayat* elections whereas earlier male members of the family used to propose more (Pandey, 2016). The socio-economic status of the SC women in the

Ramanathapuram district was found to be that after joining the SHGs, SC women increased their capacity to generate income, savings, decision-making, and expenses. It was also found in the study that after joining SHGs, SC women were empowered due to the availed loan amount, participated in a training program, acquired awareness and knowledge through SHGs and were aware of the use of technology (Meganathan, Saravanan and Ganthi, 2015).

## Conclusion

Findings concluded the strong and significant impact of SHGs interventions on women's Economic Empowerment in Haryana. Both social groups were significantly affected by the interventions of SHGs, but it was worth noting that it bridged the gap between other backward and Dalit women beneficiaries. Dalit women were found working as office bearers and actively contributing to SHGs meetings at VO and CLF. They handled major decisions in social committees and addressed various issues related to the infrastructure and development of their village. However, difficulties in repayment, drop-outs, maintaining records of bookkeeping, and utilization of loans in consumption activities were also found in the analysis, and these can be addressed through effective vocational training programmes and livelihood activities to increase their income and asset holdings.

It was observed that the intervention of vocational training and productive utilization of loans positively impacted the women beneficiaries in the field, but the actual number of training programmes was conducted in less numbers. Promoting such programmes to boost small businesses and microenterprises is necessary. It was observed that the NABARD released low grants for MEDPs (Micro Enterprise Development Programs) and LEDPs (Livelihood and Enterprise Development Programs) in the last few years. Microenterprises should be connected with market access interventions and business plan training. There is a need to monitor borrowing activities from the informal channels to address the loan repayment issues. To improve the utilization of loan activities, it is suggested that interest be reduced on bank loans and that a significant amount of loans be increased to initiate a start-up.

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